

NEW APHIDINAE OF JAPAN.

By

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(With 1 plate).

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Since I have published the Aphididae of Japan¹⁾, I have found 22 new species and 5 new genera belonging to the subfamily Aphidinae, and I shall describe them in the present paper. I shall also enumerate in this occasion some species which were not known to our faunal region.

1. *Metaphis* n. g.

Allied to *Yamataphis* MATS., but differs from the latter as follows:

Anterhinial of the antennae scarcely shorter than the 4th joint, the 3rd joint much longer, nearly as long as the 4th and 5th taken together. Media of the fore-wing always 2 branched. Cauda large, much broader than the cornicles, longer than wide. Cornicles longer and larger, near the apex more dilated.

Genotype.—*Metaphis angelicae* MATS.

1. *Metaphis angelicae* n. sp. (Pl. I. f. 5, a, b; c.)

Winged viviparous female—Body oblong, head and thorax brownish, the rest greenish yellow. Antennae somewhat infuscated, the 3rd joint with numerous granulous sensoria; anterhinial nearly 9 times as long as the postrhinial. Wings hyaline, veins and stigma pale testaceous, 2nd furcal nearly at the two-thirds part of the first near the apex. Cornicles clavate, at the base much constricted, cauda nearly twice as broad as the base of the cornicle, with short hairs on the sides near the apex.

¹⁾ Journal of the College of Agriculture, Tohoku Imperial University, Sapporo, Japan, Vol. VII, Pt. 6, p. 351-414 (1917).

[Trans. of Sapporo Natural History Soc. Vol. VII. Part 1, 1918.]

Length—1.8 mm.; exp. 6 mm.; cornicles 0.15 mm.; cauda 0.08 mm.

Hab.—Hokkaido (Kushiro); in the early part of June, 1917, collected by the author.

F. P.—*Angelica ursina*, sucking the juices of the flowers.

N. J.—*Yezouu-abura*.

2. *Macrosiphum cercidiphylli* n. sp.

Winged viviparous female—Pale yellowish. The 3rd antennal joint with about 12 roundish sensoria on the outer side, the other joints lacking sensoria; anterhinarial about 5 times as long as the postrhinarial; apices of the 3rd to 5th somewhat infuscated. Wings hyaline, stigma and veins pale testaceous, 2nd furcal near the middle of the first. Cornicles nearly as broad as the tibia, nearly one-half the length of the posterior femur and somewhat curved near the base. Cauda conical, nearly as broad as the femur. Apices of the femora and tibiae, as well as the tarsi, fuscous.

Length—1.8 mm.; exp. 7.2 mm.; cornicles 0.5 mm.; cauda 0.15 mm.; antennae 2.8 mm.

Apterous viviparous female. Differs from the winged viviparous female as follows:

The 3rd antennal joint with a row of indistinct sensoria, 2 or 3 at the base being distinct; apices of the antennal joints and femora at the apices are not infuscated. Tibiae at the apices, and the tarsi, fuscous.

Length—2.1 mm.; antennae 2.8 mm.; cornicles 0.5 mm.; cauda 0.2 mm.

Hab.—Hokkaido (Sapporo); on the 2nd, July, 1917, collected by the author at Maruyama-Park.

E. P.—*Cercidiphyllum japonicum*; on the under surface of the leaf.

Nom. Jap.—*Katsura-higenagaabura*.

3. *Macrosiphum giganteum* n. sp.

Winged viviparous female—Much resembles *M. gobonis* MATS., but differs from the latter as follows:

Body much larger. The 3rd antennal joint on the outer side with about 32 sensoria in a row. Wings more yellowish, stigma infuscated, veins more robust

and distinct, the inner margin, where the first oblique opens, somewhat infuscated. Legs entirely black, only the femora at the extreme bases fulvous.

Length—5 mm.; antennae 11 mm.; exp. 23 mm.; cornicles 1.3 mm.; cauda 0.5 mm.

Hab.—Hokkaido (Sapporo); on the 28th, June, 1917, collected by the author, in the Botanical Garden of the Imperial Agricultural College.

F, P.—*Cirsium* sp.; sucking the juices of the shoot.

Nom. Jap.—*Azami-higenagaabura*.

4. *Macrosiphum adenophorae* n. sp.

Winged viviparous female—Dark brown, front, thorax, and abdomen on the sides, pale brown. Antennae black, the 3rd joint at the base fulvous, on the outer side with about 32, on the inner side with about 25 sensoria, being provided with a few rigid hairs. The 4th and 5th joints lacking sensoria, with a few rigid hairs; anterhinarial nearly 5 times as long as the postrhinarial. Wings hyaline, costa, cubitus and stigma testaceous, costal cell pale testaceous, veins nearly concolorous with the wing, 2nd furcal rather nearer to the apex than to the middle of the first. Cornicles straight, at the base broader, as broad as the femora, distinctly longer than one-half the length of the hind femur. Cauda brownish, long, as broad as the femora, at the apex conical, near the base somewhat constricted, with a few long hairs on the sides and apex. Legs fuscous, femora and tibia at the basis pale brownish.

Length—2.5 mm. (excl. cauda); antennae 3.7 mm.; exp. 13 mm.; cornicles 0.6 mm.; cauda 0.3 mm.

Apterous viviparous female—Differs from the winged viviparous female as follows:

The 3rd antennal joint on the outer side with about 22, on the inner side with about 9 sensoria. Femora and tibiae at the basal halves testaceous.

Length—3.7 mm.; antennae 4.0 mm.; cornicles 0.8 mm.; cauda 0.4 mm.

Hab.—Hokkaido (Kushiro); on the 11th, August, 1917, collected by the author.

F. P.—*Adenophora verticillata*, sucking the juices of the petiole.

Nom. Jap.—*Shajin-higenagaabura*.

5. *Macrosiphum syringae* n. sp.

Winged viviparous female—Dirty yellow, antennae, except the basal 2 joints, and posterior half of the abdomen, fuscous. Antennae slender, the 3rd joint, with about 8 sensoria, at the base fulvous, the 4th distinctly longer than the 5th; anterhinarial about $3\frac{1}{2}$ times as long as the postrhinarial. Wings hyaline, with a light fulvous tinge, veins, except cubitus, fuscous, costa and stigma pale fulvous, 2nd furcal nearly at the middle of the first. Cornicles dirty yellow, at the apices infuscated, as broad as the posterior tibia at the base; cauda short, conical, much longer than wide. Legs fuscous, coxae, trochanter and femora, except the apices, yellowish.

Length—2.5 mm.; antennae 3.5 mm.; exp. 8.5 mm.; cornicles 0.5 mm.; cauda 0.2 mm.

Apterous viviparous female—Differs from the winged viviparous female as follows:

The 3rd antennal joint lacks sensoria, the 4th subequal to the 5th; anterhinarial about 4 times as long as the postrhinarial. Legs fulvous, femora at the extreme apices, both ends of the tibia, and the tarsi, fuscous.

Length—2.3 mm.; antennae 3 mm.; cornicles 0.5 mm.; cauda 0.2 mm.

Hab.—Hokkaido (Sapporo); on the 18th, June, 1917, collected by the author.

F. P.—*Syringa amurensis*; gathering on the under surface of the leaves.

Nom. Jap.—*Hashidoi-higenagaabura*.

6. *Macrosiphum sorbi* n. sp.

Dirty yellow, abdomen on the sides somewhat infuscated. The 3rd antennal joint on the outer side with about 14 sensoria, the 4th and 5th subequal, lacking sensoria; anterhinarial about $3\frac{1}{2}$ times as long as the postrhinarial; basal 2 joints and extreme apices of the other joints, except the 6th, somewhat infuscated. Wings hyaline, with a pale fulvous tinge, veins brownish, stigma grayish, 2nd furcal nearly at the middle of the first. Cornicles fuscous, at the apices paler, at the bases somewhat broader, nearly as broad as the tibiae. Cauda slender, somewhat broader than the cornicles. Femora at the apices, tibiae on both ends, and the tarsi, fuscous.

Length—2.5 mm.; antennae 4.7 mm.; exp. 9.5 mm.; cornicles 1.0 mm.; cauda 0.25 mm.

Apterous viviparous female—Differs from the winged viviparous female in the following points:

Body yellowish green. The 3rd antennal joint with 4 sensoria on the outer side near the base, the 5th somewhat shorter than the 4th, antehinarian about 5 times as long as the postrhinarian. Cornicles much longer, cauda broader, conical.

Length—3 mm. (excl. cauda); antennae 5 mm.; cornicles 1.2 mm.; cauda 0.25 mm.

Hab.—Hokkaido (Sapporo); on the 18th, June, 1917, collected by the author in the Botanical Garden of the Imperial Agricultural College.

F. P.—*Sorbus japonica*; on the under surface of the leaves.

Nom. Jap.—*Nanakamado-higunagaabura*.

7. *Siphocoryne cacaliae* n. sp.

Winged viviparous female—Dark greenish fulvous, head and thorax fuscous. Antennae much shorter than the body, the 3rd joint with about 30 granulous sensoria, the 4th with about 8, the 5th much shorter than the 4th, antehinarian nearly 3 times as long as the postrhinarian. Wings with a very light fulvous tinge, stigma light grayish, veins fulvous, 2nd furcal near the middle of the first. Abdomen spotless; cornicles short, in the middle scarcely inflated; cauda broader than the cornicles, broad-conical, at the base paler in color. Legs concolorous with the body, femora and tibia at the apices, and the tarsi, fuscous.

Length—1.4 mm.; exp. 5 mm.; antennae 1 mm.; cornicles 0.2 mm.; cauda 0.07 mm.

Apterous viviparous female—Differs from the winged viviparous female as follows:

Body paler, oval. Antennae shorter, the 3rd joint wants distinct sensoria, as long as the 4th and 5th taken together; antehinarian about $3\frac{1}{2}$ times as long as the postrhinarian, much dilated at the rhinarium. Cornicles gradually becoming broader towards the bases. Cauda broader, semiglobular. Legs concolorous with the body, shorter and robuster.

Length—1.7 mm.; antennae 0.7 mm.; cornicles 0.1 mm.; cauda 0.07 mm.

Hab.—Hokkaido (Sapporo); in the early part of July, 1917, collected by the author, in the Botanical Garden of the Imperial Agricultural College.

F. P.—*Cacalia hastata*; attacking the under surface of the leaves.

Nom. Jap.—*Yobusuma-kubireabura*.

8. *Siphocoryne cornicolum* n. sp.

Winged viviparous female—Dark brown, oblong. Antennae at the apical halves fulvous, somewhat shorter than the body, the 3rd joint at the base paler, with about 18 sensoria in a double row, all the joints strongly imbricated, the 5th somewhat shorter than the 4th; anterhinarial nearly $2\frac{1}{2}$ times as long as the post-rhinarial, at the rhinarium strongly dilated. Wings hyaline, with a light fulvous tinge, stigma and veins fulvous, 2nd furcal near the apex of the first. Cornicles short, in the middle somewhat inflated, as broad as the hind tibia at the base. Cauda small and of a conical shape. The last abdominal segment with numerous curved hairs. Legs fulvous, femora and tibia at the apices, and the tarsi, fuscous.

Length—1.8 mm.; antennae 1.5 mm.; exp. 6.6 mm.; cornicles 0.22 mm.; cauda 0.1 mm.

Apterous viviparous female—Differs from the winged viviparous female as follows:

Body somewhat shorter. The 3rd antennal joint with one or 2 sensoria, the 5th and post-rhinarial at the apices somewhat infuscated. Cornicles in the middle scarcely inflated and somewhat excurved. Cauda larger, distinctly broader than the cornicles. Legs entirely pale brown.

Length—1.6 mm.; antennae 1.5 mm.; cornicles 0.25 mm.; cauda 0.12 mm.

Hab.—Hokkaido (Sapporo); on the 28th, June, 1971, collected by the author in the Botanical Garden of the Imperial Agricultural College.

F. P.—*Cornus controversa*; on the under surface of the leaves.

Nom. Jap.—*Mizuki-kubireabura*.

9. *Siphocoryne donarium* n. sp.

Closely allied to *S. avenae* F., but differs from the latter as follows:

Antennae much longer, the 3rd antennal joint with about 25 and the 4th with

about 8 small sensoria on the upper surface, the 4th and 5th subequal, the 3rd somewhat longer than the 4th and 5th taken together; anterhinarial about 4 times as long as the postrhinarial. Stigma at the posterior margin somewhat infuscated, radial vein arising exactly at the middle of the stigma, 2nd furcal quite near the apex. Cauda small.

Length—1.5–2.5 mm.; exp. 7–9 mm.; antennae 1.5 mm.; cornicles 0.25 mm.
cauda 0.09 mm.

Apterous viviparous female—Differs from the winged viviparous female as follows:

Body much broader. Antennae shorter than the body, the 3rd antennal joint somewhat longer than the 4th and 5th taken together, lacking distinct sensoria, the 4th somewhat longer than the 5th; anterhinarial nearly $3\frac{1}{2}$ times as long as the postrhinarial. Cornicles near the apices scarcely inflated. Cauda broad, conical, distinctly longer than wide.

Length—2–3 mm.; antennae 1.5 mm.; cornicles 0.3 mm.; cauda 0.08 mm.

Hab.—Hokkaido (Sapporo); on the 1st of August, 1917, collected by the author in the Botanical Garden of the Imperial Agricultural College.

F. P.—*Prunus donarum* and *P. americana*; when the leaves are attacked by this Aphis, they curl downwards, changing the colour often to crimson-red.

2. *Yezosiphum* n. g.

Somewhat resembles *Siphocoryne* Pass., but differs from the latter as follows:

The 3rd antennal joint very long, distinctly longer than the following 3 joints taken together, with numerous granulous sensoria all over the surface, the 4th and 5th joints short and subequal; anterhinarial somewhat longer than the postrhinarial, the latter somewhat shorter than the 5th. Cornicles short, somewhat inflated in the middle. Cauda longer and broader than the cornicles, long-conical.

Genotype—*Yezosiphum thalictri* Muls.

10. *Yezosiphum thalictri* n. sp. (Pl. I. f. 4, a, b, c).

Winged viviparous female—Body dark greenish brown, oblong in shape. Antennae as long as the body, the 3rd joint with about 55 granulous sensoria;

anterrhinarial nearly $1\frac{1}{2}$ times as long as the postrhinarial. Wing with a pale fulvous tinge, stigma pale grayish, at the hind margin somewhat infuscated, veins fulvous. Cornicles dark fulvous, somewhat broader than the hind tibia, as long as the same tarsus. Cauda fulvous, with very fine grayish hairs, nearly $1\frac{1}{2}$ times as long as the cornicles, and nearly as broad as the posterior femur at the apex. Legs fulvous, femora and tibiae at the apices, and the tarsi, fuscous.

Length—1.5 mm. (excl. cauda); exp. 5.5 mm.; antennae 1.5 mm., cornicles 0.18 mm.; cauda 0.22 mm.

Hab.—Hokkaido (Sapporo); in the early part of June, 1917, collected by the author in the Botanical Garden of the Imperial Agricultural College.

F. P.—*Thalictrum aquilegifolium*; attacking the upper part of the shoot.

Nom. Jap.—*Karamatsuso-abura*.

11. *Rhopalosiphum hydrangeae* n. sp.

Winged viviparous female—Body dark brown, head, pronotum and the basal one-half of the abdomen, fulvous. Antennae fuscous, distinctly longer than the body, the 3rd joint at the base pale fulvous, with about 21 sensoria on the outer side, the 4th with about 3 sensoria near the base, somewhat shorter than the 3rd, and much longer than the 5th; anterrhinarial only $2\frac{1}{2}$ the length of the 5th; antennal-process as long as the 2nd joint, but much broader than the first. Wings with a light fulvous tinge, veins fulvous, 2nd furcal nearly at the middle of the first, stigma pale grayish. Abdomen on the sides fuscous spotted. Cornicles fuscous, long, much dilated near the middle. Cauda fulvous, conical, about $\frac{1}{3}$ the length of the cornicles. Legs fulvous, the apical halves of the femora, apices of the tibiae, and the tarsi, fuscous.

Length—2 mm.; exp. 7 mm.; antennae 3 mm.; cornicles 0.5 mm.; cauda 0.2 mm.

Apterous viviparous female—Differs from the winged viviparous female as follows:

Body broader, brownish yellow. Antennae fuscous, at the basal $\frac{1}{3}$ pale fulvous, the 3rd joint with 2 or 3 sensoria, 4th much shorter than the 3rd, the 5th somewhat shorter than the 4th; anterrhinarial nearly 4 times as long as the post-rhinarial. Legs pale fulvous.

Length—2.2 mm.; antennae 3.2 mm.; cornicles 0.5 mm.; cauda 0.15 mm.

Hab.—Hokkaido (Sapporo); in the latter part of June, 1917, collected by the author in the Botanical Garden of the Imperial Agricultural College.

F. P.—*Hydrangea paniculata*; attacking the under surface of the leaves

Nom. Jap.—*Sabita-tokkurabura*.

12. *Rhoparosiphum sambuci* n. sp.

Winged viviparous female—Body dirty yellow, abdomen in the middle with a large whitish spot. Antennae fuscous, at the base of each joint somewhat paler, the 3rd joint with about 25 large and small sensoria on the outer side, subequal either to the 4th or 5th; anterhinarial about 5 times as long as the postrhinarial. Wings with a light fulvous tinge, stigma and veins fulvous, 2nd furcal nearly at the middle of the first. Cornicles long, in the middle somewhat dilated, and at the apices somewhat infuscated. Cauda broad-conical, nearly twice as broad as the cauda. Legs fulvous, femora at the apical halves, tibiae at the apices, and the tarsi, fuscous.

Length—2.7 mm.; exp. 11 mm.; antennae 3.5 mm.; cornicles 0.7 mm., cauda 0.25 mm.

Pupa—Differs from the winged viviparous female as follows:

Antennae at the apex of each joint infuscated, the 3rd somewhat longer than the 5th. Wing-sheath reaches to the one-third part of the abdomen. Cauda broader.

Length—3 mm.; antennae 3 mm.; cornicles 0.5 mm.; cauda 0.25 mm.

Hab.—Hokkaido (Sapporo); in the latter part of June, 1917, collected by the author in the Botanical Garden of the Imperial Agricultural College.

F. P.—*Sambucus racemosa*; attacking the under surface of the leaves.

Nom. Jap.—*Niwatoko-tokkurabura*.

13. *Rhopalosiphum smilacis* n. sp.

Winged viviparous female—Dirty yellow. Antennae fuscous, the first 2 joints and the base of the 3rd fulvous, the 3rd joint with about 17 large and small sen-

soria on the outer side, the 3rd, 4th and 5th only a little decreasing the lengths gradually, with short rigid hairs; anterhinarial about $4\frac{1}{2}$ times as long as the post-rhinarial. Wings scarcely with a fulvous tinge, veins and stigma fulvous, 2nd furcal nearly in the middle of the first. Abdomen with an indistinct, often interrupted fuscous band and the same colored spots on the sides. Cornicles long, slender, near the middle somewhat inflated, and at the apex infuscated. Cauda long, conical, constricted in the middle, nearly twice as broad as the cornicles. Legs fuscous, coxae, trochanter and bases of the femora, fulvous, the middle of the tibiae being somewhat paler.

Length—3 mm.; exp. 10 m m.; antennae 4 mm.; cornicles 0.7 mm.; cauda 0.3 mm.

Apterous viviparous female—Differs from the winged viviparous female as follows:

Antennae shorter, the 3rd joint wants sensoria, distinctly longer than the 4th, anterhinarial about 5 times as long as the postrhinarial.

Length—3 mm.; antennae 4 mm.; cornicles 0.5 mm.; cauda 0.3 mm.

Hab.—Hokkaido (Sapporo); in the latter part of the June, 1917, collected by the author in the Botanical Garden of the Imperial Agricultural College.

F. P.—*Smilax China*, *Viburnum sp.*; attacking the upper part of the shoots.

Nom. Jap.—*Sarutori-tokkuriabura*.

14. *Rhopalosiphum viciae* Kalt. var. *japonicum* var. n.

Differs from the type in the following points:

Winged viviparous female—Head yellowish green, in the middle and on the side fuscous spotted. Abdomen on the basal part lacks black bands. Cauda dark green, somewhat shorter than the cornicles. Wings with a light fulvous tinge, stigma and veins fulvous.

Length—2.5 mm.—3.5 mm.; antennae 3–5 mm.; exp. 11 mm.; cornicles 0.6 mm.; cauda 0.4 mm.

Apterous viviparous female—Differs from the type as follows:

Head greenish yellow, pronotum brownish, thorax paler, cauda dark green, at the base yellowish.

Length—4 mm. (excl. cauda); antennae 6 mm.; cornicles 0.7 mm.; cauda 0.6 mm.

Hab.—Hokkaido (Sapporo); on the 19th, June, 1917, collected by the author at Maruyama-Park.

R. P.—*Vicia unijuga*; gathering on the upper part of the shoot.

Nom. Jap.—*Tanizwatashi-tokkuriabura*.

15. *Rhopalosiphum tiliae* n. sp.

Winged viviparous female—Dark brown, thorax on the sides greenish yellow. Antennae somewhat shorter than the body, the 3rd joint with numerous (about 60) large sensoria all over the upper surface, provided with a few rigid, short hairs, the 4th with about 15 sensoria, the 3rd as long as the 4th and 5th taken together, the 5th much shorter than the 4th; anterhinarial about 4 times as long as the postrhinarial. Wings with very light fulvous tinge, veins fulvous, stigma fuscous, 2nd furcal nearly at the middle of the first. Abdomen greenish fulvous, much broader than the thorax, with fuscous bands and spots. Cornicles fusiform, much dilated at the middle. Cauda greenish fulvous, conical, at the base as broad as the broadest part of the cornicles. Legs fuscous, coxae, trochanter and the basal halves of the femora, fulvous.

Length—3.5 mm.; exp. 1.2 mm.; antennae 3.4 mm.; cornicles 0.5 mm.; cauda 0.2 mm.

Apterous viviparous female—Differs from the winged viviparous female as follows:

Antennae greenish fulvous, the 3rd antennal joint with about 17 sensoria, the 4th wants sensoria; anterhinarial about 7 times as long as the postrhinarial. Abdominal bands indistinct. Legs greenish fulvous, femora and tibiae at apices, and the tarsi, fuscous.

Hab.—Hokkaido (Sapporo); in the first part of July, 1917, collected by the author; very common.

R. P.—*Tilia japonica*; attacking the under surface of the leaves.

Nom. Jap.—*Shina-tokkuriabura*.

16. *Rhopalosipum miniatum* n. sp.

Winged viviparous female—Body orange yellow. Antennae dirty yellow, the 3rd joint fuscous, at the base pale fulvous, with about 40 sensoria on the outer side, the 4th with about 8 sensoria near the middle on the outer side, somewhat longer than the 5th, anterhinarial about 4 times as long as the postrhinarial. Wings with a light fulvous tinge, veins and stigma brownish yellow, 2nd furcal rather nearer to the apex of the first, cornicles fuscous, at the middle distinctly dilated and with a whitish band. Cauda small, constricted at the middle. Legs fuscous, coxae, trochanter and the extreme base of the femora, fulvous.

Length—4.3 mm.; exp. 14 mm.; antennae 4.5 mm.; cornicles 0.8 mm., cauda 0.25 mm.

Apterous viviparous female—Differs from the winged viviparous female as follows:

Body covered with white meally-substances. Antennae broader, shorter, the 3rd and 4th joints want sensoria; anterhinarial about 6 times as long as the postrhinarial. Cornicles shorter, want whitish band; cauda broad-conical, short, broader than long. Legs, especially the femora, much broader. Head, antennae, rostrum and cornicles entirely fuscous.

Length—4 mm.; antennae 3 mm.; cornicles 0.4 mm.; cauda 0.2 mm.

Hab.—Hokkaido (Sapporo) ; in the middle part of June, 1917, collected by the author in the Botanical Garden of the Imperial Agricultural College.

F. P.—*Staphylea Bunalda*; very injurious, often causing the death of the branches.

Nom. Jap.—*Mitsubautsugi-tokkurabura*.

17. *Rhopalosiphum hemerocallidis* n. sp.

Much resembles *R. miniatum* MARS., but differs from the latter as follows:

Winged viviparous female—Body much narrower. Antennae entirely fuscous, the 3rd joint with some more sensoria, outer ones being arranged in a regular row, the 4th wants sensoria. Veins of the wings distinctly narrower. Abdomen on the sides fuscous spotted, clothed with some meally substances. Cornicles entirely fuscous, near the apices much constricted. Cauda much longer, conical, $\frac{2}{3}$ the

length of the cornicles.

Length—4 mm.; exp. 12 mm.; antennae 4.3 mm.; cornicles 0.8 mm.; cauda 5. mm.

Apterous viviparous female—Differs from the winged viviparous female as follows:

The 3rd antennal joint near the base with about 12 small sensoria, about 6 times as long as the postrhinarial. Abdomen on the sides wants fuscous spots; cauda cylindrical, at the apex conical. Tibiae somewhat paler in color.

Length—3 mm. (excl. cauda); antennae 4 mm.; cornicles 0.7 mm., cauda 0.4 mm.

Hab.—Hokkaido (Teshikaga in Kushiro); in the middle part of August, 1917, collected by the author.

F. P.—*Hemerocallis middendorffii*; attacking the upper part of the flower-stem.

Nom. Jap.—*Kwanzo-tokkuriabura*.

18. *Rhopalosiphum ribis* L.

Aphis ribis L. Faun. Suec. p. 258, 975 (1761).

Rhopalosiphum ribis Koch., Aph. p. 39, f. 50, 51 (1857).

Hab.—Hokkaido (Sappao); Europe, N. America.

F. P.—*Ribes rubrum*; attacking the under surface of the leaves, causing roundish tubercles.

Nom. Jap.—*Suguri-tokkuriabura*.

I have caught at first the winged viviparous species in the latter part of June, 1917, in the Botanical Garden of our Imperial Agricultural College. Its habits and structure do not differ practically from those of the European species.

19. *Megoura dryopteridis* n. sp.

Winged viviparous female—Body oblong, yellowish. Antennae much longer than the body, the 3rd joint with about 4 sensoria on the outer side, provided with a few short rigid hairs, the 4th scarcely shorter than the 3rd, the 5th distinctly shorter, anterhinarial about 6 times as long as the posthinarial, the 6th nearly as long as the 4th and 5th joints combined, very slender, on each apex of the joints somewhat infuscated. Wings hyaline, veins and stigma fulvous, the

latter at the hind margin somewhat infuscated, the 2nd furcal at the middle of the first. Abdomen much longer than the head and thorax combined; cornicles long, strongly dilated in the middle, fuscous, at the basal half paler; cauda paler, about $1/3$ the length of the cornicle. Legs greenish, femora and tibiae at the apices and the tarsi, fuscous.

Length—5.5 mm.; exp. 15 mm.; antennae 7 mm.; cornicles 0.8 mm.; cauda 0.3 mm.

Apterous viviparous female—Differs from the winged viviparous female as follows:

Body oval, at both ends acuminate. The 3rd antennal joint with about 6 sensoria on the outer side. Cornicles narrower in the middle, at the apices fuscous; cauda somewhat broader and shorter. Apices of the tibiae and the tarsi, fuscous.

Length—4.5 mm.; antennae 6 mm.; cornicles 0.5 mm.; cauda 0.25 mm.

Hab.—Hokkaido (Kushiro); collected by Mr. T. OKUNI.

F. P.—*Dryopteris dilata*; on the under side of the leaves.

Nom. Jap.—*Ivarabi-tokkurabura*.

20. *Phorodon viburni* n. sp.

Winged viviparous female—Body brownish, oval. Antennae somewhat longer than the body, the antennal-process on the innerside with a large wart-like projection, the 3rd joint with about 12 small sensoria on the outer side, the 4th and 5th subequal to the 3rd and 4th taken together. Wings with a light fulvous tinge, veins brownish, stigma grayish, 2nd furcal rather nearer to the apex of the first. Cornicles long, nearly as long as the middle femur. Cauda conical, at the base somewhat as broad as the cornicles. Legs concolorous with the body, femora at the apices somewhat infuscated.

Length—1.5 mm.; exp. 5.5 mm.; antennae 1.8 mm.; cornicles 0.4 mm.; cauda 0.12 mm.

Pupa—Differs from the winged viviparous female as follows:

The tubercles of the antennal-process and the first joint more conspicuous, the 3rd joint with a few indistinct sensoria on the outer side, the 4th somewhat shorter than the 5th, the 6th nearly as long as the other joints combined; antehinarian about 7 times as long as the postrharian. Wing-sheath reaches not to

the middle part of the posterior femur. Cauda broad-conical, short.

Length—1.4 mm.; antennae 1.5 mm.; cornicles 0.25 mm.; cauda 0.08 mm.

Hab.—Hokkaido (Sapporo); in the early part of July, 1917, collected by the author in the Botanical Garden of our Imperial Agricultural College.

F. P.—*Viburnum* sp.; infecting the under surface of the leaves.

Nom. Jap.—*Gamazumi-ibobabura*.

21. *Phorodon galeopsidis* KALT.

Aphis galeopsidis KALT. Monog. Aph. p. 35 (1843).

Phorodon galeopsidis PASS. Gli. Afid. p. (1865); Buck. Monog. Vol. p. 171 Pl. XXXII, (1875).

Hab.—Hokkaido (Sapporo), Honshu, Formosa; Europe.

F. P.—I have found this species on the under surface of the leaves of *Elaeagnus* sp. at the Okada-garden in the Nakajima-Park. In Europe this species attacks *Galeopsis tetrahit*, *Lamium album*, *Stachys sylvatica* and *Polygonum persicaria*.

Nom. Jap.—*Gumi-ibobabura*.

3. *Acanthaphis* n. g.

Near *Phorodon* of Passarini.

Apterous viviparous female—Hairs of the body mostly capitate. Antennae much shorter than the body, antennal-process nearly as long and broad as the first joint, with 2 capitate hairs on the inner side, the first joint with a long cylindrical process; which being longer but slenderer than the 2nd joint, the 3rd the longest, the 4th and 5th subequal, postrhinarial somewhat shorter than the 5th, anterhinarial short. Rostrum moderately long. Thorax and abdomen on the sides with a row of capitate hairs, in the middle of each thoracic and abdominal segment with a pair of tuberculous projections, the penultimate pair being very long. Cornicles long, cylindrical, somewhat incurved. Cauda conical, longer than broad. Legs moderately long.

Genotype—*Acanthaphis rubi* MATS.

22. *Acanthaphis rubi* n. sp. (Pl. I. f. 3, a, b, c, d).

Apterous viviparous female—Body oblong, dark brown. Antennae at the basal one-third paler, with a few hairs, the branch-like process of the first joint at the apex blunt, with 2 capitate hairs on the inner side, the 3rd joint somewhat shorter than the 4th and 5th combined, wants distinct sensoria; anterhinial about $2\frac{1}{3}$ times as long as and a little slenderer than the postrhinial. Dorsal projections each with one or 2 capitate hairs. Cornicles nearly reach to the tip of the cauda, at the apices somewhat infuscated. Cauda conical, near the base with a few fine hairs. Legs concolorous with the body, some hairs being capitate.

Length—1.3 mm.; antennae 1 mm.; cornicles 0.5 mm.; cauda 0.15 mm.

Hab.—Hokkaido (Sapporo); in the latter part of July, 1917, collected by the author in the Botanical Garden of the Imperial Agricultural College.

F. P.—*Rubus* sp.

Nom. Jap.—*Ichigo-togabura*.

23. *Myzus malisuctus* n. sp.

Winged viviparous female—Body oblong, brownish, head and thorax fuscous. Antennae distinctly longer than the body, the antennal-process somewhat shorter but broader than the first joint, the first joint with a roundish protuberance, the 3rd joint with about 15, the 4th with about 7, the 5th with about 4 sensoria, the 5th much shorter than the 4th; anterhinial about 5 times as long as the postrhinial. Wings with a very pale fulvous tinge, veins fulvous, stigma pale grayish, 2nd furcal rather near to the apex. Abdomen on the side fuscous spotted. Cornicles about $3\frac{1}{2}$ times as long as the tarsi; cauda short, conical, somewhat shorter than the tarsi. Femora, except the bases, and the apices of the tarsi, fuscous.

Length—1.1 mm.; exp. 4.4 mm.; antennae 1.2 mm.; cornicles 0.25 mm.; cauda 0.09 mm.

Apterous viviparous female—Differs from the winged viviparous female as follows:

Body green, longer. Antennae much shorter than the body, tubercles of the antennal-process and first joint more conspicuous, the 3rd joint wants distinct sensoria; anterhinial about 6 times as long as the postrhinial. Abdomen with

2 deep colored longitudinal stripes. Cornicles broader and longer. Cauda at the base broader than the cornicles, larger.

Length—1.3 mm.; antennae 1 mm.; cornicles 0.3 mm.; cauda 0.1 mm.

Hab.—Hokkaido (Sapporo); in the early part of July, 1917, collected by the author in the Botanical Garden of the Imperial Agricultural College.

F. P.—*Pirus malus*; causing the leaves to roll in, very injurious.

Nom. Jap.—*Ringo-kobuabura*.

24. *Arimakia taranbonis* MATS.

Arimakia taranbonis MATS., Journ. Coll. Agric. Vol. VII, p. 497 (1917), (apterous viviparous female only described.)

Winged viviparous female—Much resembles *A. araliae* MATS., but differs from the latter as follows:

Antennae, except the base of the 3rd joint, fuscous, the 4th joint with about 8 sensoria, the 5th joint somewhat longer than the anterhinarial; anterhinarial about $2\frac{1}{2}$ times as long as the postrhinarial. Legs black, femora at the bases and tibiae, except both ends, fulvous.

Length—2.2 mm.; exp. 8.0 mm.; antennae 1.5 mm.; corniculus 0.15 mm.

Hab.—Hokkaido (Sapporo); in the middle part of July, 1917, collected by the author in the Botanical Garden of the Imperial Agricultural College.

F. P.—*Aralia sinensis*, *Kalopanax ricinifolium*, *K. divaricatum* and *Viburnum dilatatum*; attacking the under surface of the leaves.

Nom. Jap.—*Taranbo-abura*.

25. *Yezabura photinia* n. sp.

Much resembles *Y. sasae* MATS., but differs from the latter in the following points:

Winged viviparous female—Antennae dirty yellow, antennal-process and the first 2 joints fuscous, the 3rd joint broad, fusiform, with about 12 sensoria, the 4th and 5th want distinct sensoria. The space between the media (with furcal) and stigmatic vein nearly parallel throughout, while in *sasae* much broader near the

base (at the base of stigma). Cornicles somewhat longer. Cauda much slenderer than the cornicles, nearly as long as the tarsi. Legs fulvous, femora, apices of the tibiae, and the tarsi, infuscated.

Length—1.3 mm.; exp. 5.2 mm.; antennae 1.5 mm.; cornicles 0.2 mm.; cauda 0.09 mm.

Pupa—Differs from the winged viviparous female as follows:

Antennae broader, the 3rd, 4th and 5th joints subequal, the 6th somewhat infuscated, the 3rd with a few indistinct sensoria. Wing-sheath pale brownish, with 2 fuscous stripes. Cornicles and cauda shorter, the latter being much broader. Legs shorter and broader.

Length—1.4 mm.; antennae 1.2 mm.; cornicles 0.1 mm.; cauda 0.07 mm.

Hab.—Hokkaido (Sapporo); in the latter part of June, 1917, collected by the author in the Botanical Garden of our College.

F. P.—*Photinia villosa*; attacking the under surface of the leaves.

Nom. Jap.—*Kamatsuka-kurumiyakubura*.

4. *Sappaphis* n. g.

Somewhat allied to *Aphis* L., but differs from the latter as follows:

Winged viviparous female—Body with woolly secretion. Antennae broad, with many minute hairs, the 3rd joint subequal to the 4th and 5th combined; anterthinarial scarcely $1\frac{1}{2}$ times as long as the postrthinarial. First furcal arises from one third part near the base of media, the space between the 2nd oblique and media broader than the space between the first and 2nd oblique; stigma shorter and in a shape of fusiform. Cornicles short, cylindrical, somewhat longer than the tarsi, cauda short and broad.

Genotype—*Sappaphis piri* MATS.

26. *Sappaphis piri* n. sp. (Pl. I. f. 1, a, b, c).

Winged viviparous female—Body fuscous, abdomen fulvous. Antennae much shorter than the body, the 3rd joint with about 23 sensoria all over the upper surface, the 4th with about 5 small sensoria on the outer side. Wings with a very light fulvous tinge, veins and stigma fuscous, 2nd furcal at the middle of the first. Abdomen on the sides fuscous spotted, with about 5 fuscous bands at the apical half

of the abdomen. Cornicles near the base somewhat incurved, distinctly broader and longer than the tarsi. Cauda nearly as long as wide, rounded. Legs concolorous with the abdomen.

Length—1.7 mm.; exp. 6 mm.; antennae 1.3 mm.; cornicles 2.4 mm.

Apterous viviparous female—Differs from the winged viviparous female as follows :

Body broad oval, brownish. Antennae much shorter, the 3rd joint with a few indistinct sensoria on the outer side, shorter than the 4th and 5th combined, the 5th distinctly longer than the 4th, the 6th somewhat infuscated. Abdomen wants fuscous spots and bands. Cauda much broader, broader than long.

Length—2.4 mm.; antennae 1.2 mm.; cornicles 2.5 mm.

Hab.—Hokkaido (Sapporo); in the latter part of June, 1917, collected by the author in the Okada-garden at Nakajima-Park.

F. P.—*Pirus communis*; attacking the under surface of the leaves, covered with white woolly secretion.

Nom. Jap.—*Nashi-maruabura*.

5. *Myzopsis* n. g.

Much resembles *Myzus* Pass., but differs from the latter as follows :

Antennae much longer than the body, the antennal-process only one-half the length of the first, with a large wart-like projection on the inner side, the 3rd somewhat shorter than the 6th, the 4th and 5th gradually decreasing their lengths; anterhinarial about $2\frac{1}{2}$ times as long as the postrhinarial. Wings broad and long, first oblique nearly in the right angles to the cubitus, much separated from the 2nd oblique than the media is separated. Cornicles slender, very long, cylindrical. Cauda long, about twice as broad as the cornicles, conical, in the middle somewhat constricted.

Genotype—*Myzopsis diervillae* MATS.

27. *Myzopsis diervillae* n. sp. (Pl. I. f. 2, a, b, c).

Winged viviparous female—Body broad fusiform, dark yellowish brown, with a greenish tinge. Antennae somewhat longer than the body, the 3rd joint with about 20 sensoria, the 4th and 5th joints want sensoria; anterhinarial somewhat

slenderer than the postrhinarial. Wings with very light fulvous tinge, veins fuscous, stigma pale grayish, 2nd furcal about at the middle of the first. Abdomen wants any spot. Cornicles very long and slender, at the apices somewhat infuscated. Cauda long conical, at the apex infuscated. Legs fulvous, femora and tibiae at the apices, and the tarsi, fuscous.

Length—1.7 mm.; exp. 6 mm.; antennae 3.2 mm.; cornicles 0.4 mm.; cauda 0.2 mm.

Pupa—Differs from the winged viviparous female as follows:

Antennae broader, at the apices infuscated, antennal-process with much larger projection on the inner side, 3rd antennal joint wants sensoria; anterhinarial 3 times as long as the postrhinarial. Wing-sheath short, reaches to the base of the abdomen. Cauda very short and broad.

Length—1.9 mm.; antennae 1.7 mm.; cornicles 0.4 mm.

Hab.—Hokkaido (Sapporo); in the middle part of June, 1917, collected by the author in the Botanical Garden of our College.

F. P.—*Diervilla japonica*; attacking the under surface of the leaves.

Nom. Jap.—*Utsugi-abura*.

摘要

余は曩に東北帝國大學紀要第七卷第六號に於て日本産蚜蟲科の目録及び新種を發表したるが今又二十二の新種並に五の新屬を發見したれば茲に發表せんとす、序に従來本邦に知れ居らざりし蚜蟲をも併記することゝせり、今下に列記すべし。

1. *Metaphis* (新屬) *angelicae* Mats. (新種) (Pl. I. f. 5, a, b, c).
系をうあぶら
2. *Macrosiphum cercidiphyllii* Mats. (新種)
かつらひけながあぶら
3. *M. giganteum* Mats. (新種)
あざみひけながあぶら
4. *M. advenophorae* Mats. (新種)
しやじんひけながあぶら
5. *M. syringae* Mats. (新種)
はしどいひけながあぶら
6. *M. sorbi* Mats. (新種)
ななかまどひけながあぶら
7. *Siphocoryne cacaliae* Mats. (新種)
よぶすまくひれあぶら
8. *S. corniculum* Mats. (新種)
みつきくひれあぶら
9. *S. donarium* Mats. (新種)
さくらくひれあぶら
10. *Yezosiphum* (新屬) *thalictri* Mats. (新種) (Pl. I. f. 4, a, b, c).
からまつさうあぶら
11. *Rhopalosiphum hydrangeae* Mats. (新種)
さびたとっくりあぶら
12. *R. sambuci* Mats. (新種)
にはとことっくりあぶら
13. *R. smilacis* Mats. (新種)
さるとりとっくりあぶら
14. *R. viciae* Kalt. var. *japonicum* Mats. (新變種)
たにはたしとっくりあぶら

15. *Rhopalosiphum tiliae* Mats. (新種)
しなとっくりあふら
16. R. *miniaturum* Mats. (新種)
うつぎとっくりあふら
17. R. *hemerocallidis* Mats. (新種)
くわんづうとっくりあふら
18. R. *ribis* L.
すぐりとっくりあふら
19. *Megoura dryopteridis* Mats. (新種)
わらびとっくりあふら
20. *Phorodon viburni* Mats. (新種)
がまつみいほあふら
21. P. *galeopsidis* Kalt.
ぐみいほあふら
22. *Acanthaphis* (新屬) *rubi* Mats. (新種) (Pl. I. f. 3, a, b, c, d).
いちごとけあふら
23. *Myzus malisuctus* Mats. (新種)
りんここぶあふら
24. *Arimakia taranbonis* Mats.
たらんぼあふら (從來有翅ノ蚜知レ居ラザリシヲ以テ記彼々
ルモノナリ)
25. *Yezabura photiniae* Mats. (新種)
かまつかくろみやくあふら
26. *Sappaphis* (新屬) *piri* Mats. (新種) (Pl. I. f. 1, a, b, c).
なしまるあふら
27. *Myzopsis* (新屬) *diervillae* Mats. (新種) (Pl. I. f. 2, a, b, c).
うつぎあふら

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